

Abstract of the Disclosure

A transponder system, which may be on a spacecraft, provides communications to and among user terminals for audio-bandwidth
5 signals. The transponder includes a receiver for uplink signals, and a digital channelizer which separates the various independent uplinked signals. The separated uplinked signals are then grouped together with other
10 signals destined for the same downlink beam, and routed to the corresponding beam input port of a beamformer. The beamformer, in turn, energizes or feeds those antenna elements which are required to form the desired antenna beam.
15 In order to provide a capability for handling signals having a bandwidth greater than that of the audio signals, as might be required for providing the capacity to handle Internet signals, for example, a wideband augmentation
20 equipment (WAE) is coupled in such a manner as to bypass the digital channelizer, to thereby provide a wideband path through the system, bypassing the narrowband channelizer.